

Title (en)

Method and apparatus for manufacturing semiconductor devices

Title (de)

Verfahren und Anlage zur Herstellung von Halbleitervorrichtungen

Title (fr)

Procédé et appareillage pour fabriquer des dispositifs semi-conducteurs

Publication

EP 0538874 B1 19990331 (EN)

Application

EP 92118130 A 19921023

Priority

- JP 6931992 A 19920220
- JP 26418392 A 19920907
- JP 30271891 A 19911023

Abstract (en)

[origin: EP0538874A1] A wafer(s) for producing semiconductor devices is subjected to heat treatment in a vertical thermal reactor, which is provided with an electric heating means (15) setting a first temperature and another electric heating means (15) setting a second temperature higher than the first temperature. The wafer(s) (2) is moved upwards and is subjected to a treatment in the second region of the vertical thermal reactor (4); and, is reverted to the first region. Rapid thermal processing of 6 or 8 inch wafer(s) is possible without causing slip lines. <IMAGE>

IPC 1-7

C23C 16/54; **C23C 16/46**; **C30B 31/12**; **H01L 21/00**; **F27B 17/00**

IPC 8 full level

C23C 16/46 (2006.01); **C23C 16/54** (2006.01); **C30B 31/12** (2006.01); **F27B 17/00** (2006.01); **H01L 21/00** (2006.01); **F27D 3/00** (2006.01)

CPC (source: EP KR US)

C23C 16/46 (2013.01 - EP US); **C23C 16/54** (2013.01 - EP KR US); **C30B 31/12** (2013.01 - EP US); **F27B 17/0025** (2013.01 - EP US); **H01L 21/67115** (2013.01 - EP US); **F27D 2003/0075** (2013.01 - EP US)

Cited by

GB2298314A; EP0848223A4; EP0884406A1; GB2293486A; EP1132506A1; DE19954021C2; GB2406709A; GB2406710A; GB2406710B; US6941063B2; US6802712B2; WO0039840A1; WO02084711A1; US6369361B2; US6548378B1; US9627244B2

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 0538874 A1 19930428; **EP 0538874 B1 19990331**; DE 69228787 D1 19990506; KR 930008998 A 19930522; KR 970000193 B1 19970106; US 5387557 A 19950207; US 5445676 A 19950829

DOCDB simple family (application)

EP 92118130 A 19921023; DE 69228787 T 19921023; KR 920019528 A 19921023; US 32174594 A 19941012; US 96460992 A 19921022